

39. The method as claimed in claim 38 including the step of:
inputting templates describing common elements of specific collections of forms.

40. The method as claimed in claim 39 wherein:
when identification of the unknown form is not successful after the self-learning step, said form map of said unknown form is saved in said line keys and objects database.

REMARKS

Claims 6,7,11,12,16,17,23,24,28,29, 33 and 34 have been cancelled and new claims 35-40 have been added so that the application now contains claims 1-5, 8-10, 13-15, 18-22, 25-27, 30-32 and 35-40.

The application has been rewritten in proper idiomatic English. It is the undersigned's belief that no new matter has been added to the application.

The applicant notes the Examiner's statement regarding an Information Disclosure Statement and new drawings and these will be forwarded under separate cover although drawings will be delayed until allowable subject matter is found by the Examiner.

The original application has been rejected under section 112 for a number of various reasons. It is believed that the substitute specification has now obviated all of the section 112 problems.

The original application has also been rejected under sections 102 and 103 based upon U.S. 5,815,704; 5,293,429; 5,434,933 and 4,933,979. It is believed that the properly worded claims now in the application are allowable.

Generally, the cited references appear to sort unknown documents into groups or classes by viewing the unknown document as patterns of blocks which identify the document. In the subject application, the invention does not utilize regions, rectangles or blocks of the document for identification. Instead, the subject application discloses "form maps" made up of

images, objects or pixels which are closely linked to each other. This means that the disclosure of the present application differentiates unknown documents based on what the documents actually comprise rather than forming regions, rectangles or blocks before allowing a comparison with known documents.

The present invention utilizes "line keys and object area lists" for identification, wherein lines and objects in a document are separated from other lines and objects before they are utilized for identification. Even colors may be used for identification. Thus, a specific unknown document can be quickly identified as opposed to recognizing the document as belonging to a particular group or category.

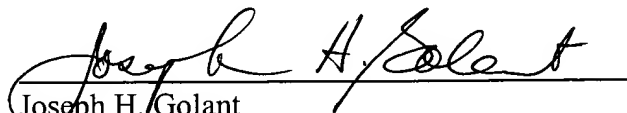
More particularly, the 5,815,704 patent specifically creates rectangles or the like for comparisons. The invention of the present application does not do so. The 5,293,429 patent adds the length of all lines in making comparisons. This is not done in the subject application because a scan of lines may be blurry and thus not capture the entirety of the lines. Patent 5,434,933 relies on a single signature comprising a number of "peaks" for an entire form used for comparison. The present application has form maps which are partitioned in horizontal and/or vertical line sections and marks such a section every time there is a match found with such lines in a database. Patent 4,933,979 appears to recognize frame lines such as rectangles meant to be filled in with text. Moreover, some form graphics must be known to the system before registering an unknown form. In the '979 patent predetermined frames of the form have to be utilized in order to identify and register new forms. The invention of the present application generates a form map in real time every time an unknown form is read. The form map is then compared with stored form maps (within predetermined limits) but the method of the present invention does not initially use pre-stored graphics to find like graphics on an unknown form.

Thus, if the unknown form map is not identified, it is stored as a new previously unknown form map.

In view of the altered specification and claims and in view of the above comments, the Examiner is respectfully requested to reconsider the application and indicate allowance.

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Respectfully submitted,


Joseph H. Golant
Reg. No. 24,210
JONES, DAY, REAVIS & POGUE
77 West Wacker Drive
Chicago, Illinois 60601-1692
(312) 269-1534